

LB 3052

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1888

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University of the State of New York.

ACADEMIC
EXAMINATION PAPERS.

NOVEMBER, 1888.

OCT 28 1912

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32ND ADVANCED ACADEMIC EXAMINATION.

ALGEBRA.

(Through Quadratics.)

MONDAY, November 19, 1888—Time, 9:30 A. M. to 12:30 P. M. only.

40 credits, necessary to pass, 30.

1. Write the fraction which has for the numerator, the square root of x plus the cube root of y , multiplied by m fifth power increased by six times x square y cube; and the denominator, the cube root of m plus the fifth root of n multiplied by the binomial y cube plus x square. 3
2. Simplify $3(x+a)(y+b) - \{-m[c - (d-g)]\}$ 2
3. Explain and illustrate by examples, the treatment of a minus sign of a subtrahend, and of minus into minus in multiplication. 4
4. Multiply $a - b + c$, by $a + b - c$, and find the value of the product when $a=9$, $b=4$, $c=3$ 2
5. Expand $(1+c)(1+c)(1-c)(1+c^2)$ 2
6. The dividend is $x^{2n} + x^{2n}y^n + y^{2n}$; the quotient is $x^{2n} - x^n y^n + y^{2n}$; what is the divisor? 2
7. Is $m^9 + x^9$ divisible by $m+x$; by $m-x$? 4
8. Reduce the fraction $\frac{a^3 + 2ba^2 + 3b^2a^2}{2a^3 - 3ba^2 - 5b^2a^2}$ to its lowest terms. 2
9. Simplify $\frac{1+x}{1+x+x^2} - \frac{1-x}{1-x-x^2}$ 3
10. What is the rule for transposing a term from one member of an equation to the other? What is the principle? 4
11. On a disabled steamer there were 343 persons; there were twice as many men as women, and twice as many women as children. All the children, $\frac{2}{7}$ of the women and $\frac{1}{3}$ of the men were saved. How many were saved? 2
12. Solve, by comparison, $\left. \begin{array}{l} 7y - 3x = 139 \\ 2x + 5y = 91 \end{array} \right\}$ 3
13. Solve $mx^2 - 1 = \frac{x(m^3 - n^2)}{mn}$ 4
14. The sum of the areas of two square fields is 1,300 square rods, and it requires 200 rods of fence to enclose both. What is the area of each field? 3

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32ND ADVANCED ACADEMIC EXAMINATION.

AMERICAN HISTORY.

MONDAY, November 19, 1888.—Time, 1 : 30 to 4 P. M. only.

48 credits, necessary to pass, 36.

1. Give a brief account of the explorations of the Cabots, and state the real importance of John Cabot's voyage to America. 2
2. Within what states is the territory now included, which the Dutch claimed by right of discovery? 2
3. What European nations came into conflict in the settlement of Connecticut, and with what general results? 2
- 4 Give a brief account of the early settlement of New Hampshire. 2
5. State the cause of King Philip's War, and describe the battle which resulted in the destruction of the Narragansetts. 2
6. Briefly describe the Salem Witchcraft delusion. 2
7. State the circumstances of the settlement of Maryland, also of Rhode Island; what great principle was common to both these Colonies? 3
8. Give the name of the greatest of the Dutch Governors of New York; briefly describe some of the habits and customs of the people under the Dutch rule. 2
9. Describe the Patroon system in New York. In later times what troubles arose from this system? 2
10. Describe Perry's victory on Lake Erie. 2
11. What was the doctrine of Secession? 2
12. What special policy in regard to slavery gave rise to the Kansas-Nebraska border warfare; what effect did this policy have upon the settlement of those States? 3
13. Describe the battle of Mobile Bay. 2
14. Which President of the United States was impeached? State the result of the trial. 2
15. Describe the invention of the cotton gin, stating the name of the inventor, and the effect of the invention upon the later history of the United States. 3

THE AMERICAN REVOLUTION.—EVENTS OF 1778-1779-1780.

16. Where and in what year did the Wyoming massacre occur? Briefly describe it. 3
17. What American general was reprimanded at the battle of Monmouth, under what circumstances was he reprimanded, and how finally punished? 3
18. Describe Wayne's attack on Stony Point; give the location of Stony Point. 2
19. Who was John Paul Jones? Describe his most famous victory. 2
20. Describe the battle of Camden, and tell what distinguished officer was killed in the battle? 2
21. Describe the treason of Benedict Arnold at West Point, stating the causes which led Arnold to make the attempt; the manner of its discovery and the rewards given by the British to the traitor. 3

PHYSICAL GEOGRAPHY.

TUESDAY, November 20, 1888—Time, 1 : 30 to 4. P. M., only.

48 credits, necessary to pass, 36.

1. What is the length of the longest day at the equator ; at the Tropic of Cancer? Explain why these days differ in length.... 3
2. In which direction does the earth rotate and what is the principal result of the rotation?..... 2
3. Where are the magnetic poles of the earth located with reference to the geographical poles? 1
4. Mention two regions of the earth that may be called volcanic regions 2
5. Why are volcanoes on islands or near the shores of continents? 1
6. What is believed to be the chief cause of earthquakes? Describe a destructive earthquake of recent date..... 2
7. What is the general form of the land masses of the globe? 1
8. In which direction has Europe the greatest length?..... 1
9. With respect to the oceans where are the highest mountains found, and in what zone are the highest plateaus found? 2
10. Mention two great desert regions of the earth and state the cause of the desert character of the larger.... 3
11. What is meant by *relief forms*, and why is their study important? 2
12. Describe a section of South America from east to west (use a diagram if preferred)..... 2
13. Describe the formation of coral islands 2
14. Explain the difference between waves and tides with regard to their causes, and the motion of water produced by each 4
15. Draw an outline map of the State of New York. Upon it beginning at the western boundary, draw a line representing the watershed from the western and northern slope of which the water flows into the St. Lawrence system..... 3
16. Give the composition of the atmosphere and explain how the weight of the atmosphere is measured..... 2
17. What is a land breeze ; a sea breeze? Explain the cause of each 3
18. What are isothermal lines and why do they not coincide with parallels of latitude? 2
19. Describe two forms of clouds and give their names..... 4
20. Describe monsoons as to their nature, location and cause. 3
21. Mention a country or locality where each of the following is produced : quinine ; cinnamon..... 2
22. In which zone does the human family appear in its highest physical perfection? 1

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32ND ADVANCED ACADEMIC EXAMINATION.

PHYSIOLOGY.

WEDNESDAY, November 21, 1888—Time, 1 : 30 to 4 P. M., only.

48 credits, necessary to pass, 36.

1. What is the use of the mineral, and what of the animal matter in the bones?..... 2
2. What are joints? In what two ways are the surfaces of joints shielded from friction?..... 3
3. Describe the spinal column and explain the use of the cartilaginous portion..... 2
4. Explain the difference between muscles and tendons by describing each..... 2
5. Why is physical exercise necessary?..... 1
6. Why should severe muscular exercise not be taken directly after a meal; why not after a long fast?..... 2
7. Mention two important functions performed by the skin... 2
8. Explain the relation between health and cleanliness..... 2
9. Compare the effects of a cold bath with those of a warm bath, and mention the classes of persons to which each is best adapted 4
10. Make a drawing of a tooth indicating the parts of which it is composed..... 2
11. What will be the result if we live on one kind of food only? Why will this be the result?..... 2
12. Describe the functions of the salivary glands and of the bile..... 2
13. Describe the effect produced by alcoholic liquors upon the mucous lining of the stomach when brought in contact with it. What effect has alcohol upon digestion? 2
14. What effect upon the blood has exercise in the open air? 1
15. Describe the course of the blood in its circulation through the body from the right auricle to the right auricle again..... 3
16. Explain the difference between venous and arterial blood, and how one is changed to the other..... 3
17. Make a drawing showing the shapes and relative positions of the larynx, trachea, and lungs..... 3
18. What is the pleura? How does it compare in office with the pericardium? 2
19. What is proper ventilation and why is it essential?..... 2
20. Explain the difference between motor nerves and sensory nerves 2
21. Describe the arrangement of the gray and the white matter in the cerebrum 2
22. What part of the eye regulates the amount of light admitted and how does it regulate it?..... 2

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32ND ADVANCED ACADEMIC EXAMINATION.

RHETORIC AND ENGLISH COMPOSITION.

THURSDAY, November 22, 1888—Time, 9 : 30 A. M. to 12 M., only.

48 credits, necessary to pass, 36.

1. Write and properly punctuate and capitalize a sentence which shall contain a quotation within a quotation... 2
2. State the difference between purity and propriety of diction. 2
3. Define a balanced sentence. Give an example..... 2
4. Define antithesis ; show wherein it differs from simile, metaphor and allegory.... 4
5. Wherein does epigram resemble antithesis? Wherein do they differ? 2
6. What is personification? State why the English language is especially adapted to its use... 2
7. Define irony, and give an example 2
8. State the difference between irony, sarcasm and humor. . . 3
9. Point out the figures in the following sentences : (a) He was a Chameleon to the hand that fed him. (b) Next, anger rushed, his eyes on fire. (c) Come to the Bridal Chamber, Death! (d) The Red Coats turned and fled. (e) Count noses 5
10. What is an oration; how does it differ from a lecture, and how from an address?.. 3
11. What important qualities are required in the writing of history..... 3
12. State the difference between biography and memoirs .. 2
13. Mention the four varieties of feet in common use in English poetry, and write a line to illustrate each..... 4
14. Mention the terms used to indicate the number of feet in lines of poetry, and give the meaning..... 3
15. Indicate the scansion and mention the name of the foot and metre of each of the following lines:
 - (a) Thou Bell by billows swung.
 - (b) Back into my chamber turning
All my soul within me burning.
 - (c) While every Highland Glen
Sends our shout back again.
 - (d) And the might of the Gentle
unsmote by the sword. 4
16. Give the meaning of each of the following abbreviations :
Mss.; D.C.L.; B.C.; Cf ; Q.E.D..... 5

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
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
PLANE GEOMETRY.

TUESDAY, November 20, 1888—Time, 9:30 A. M. to 12:30 P. M. only.

40 credits, necessary to pass, 30.


1. Define and illustrate by a figure each of the following : alternate angles ; perpendicular line ; equilateral triangle ; rhombus ; circumference ; sector 6
2. Mention four cases in which two right-angled triangles are equal to each other..... 4
3. Why is it impossible to construct a triangle whose sides are respectively 5, 10, and 20 feet ?..... 1
4. Mention four cases in which two triangles are similar..... 4
5. How many degrees in an angle inscribed in an arc of 180° ; in an arc of 120° ?..... 2
6. Prove that two parallels are everywhere equally distant... 2
7. Prove that the diagonals of a parallelogram bisect each other..... 2
8. Prove that the radius which is perpendicular to a chord bisects that chord and also the arc subtended by it 2
9. Prove that the square described on the hypotenuse of a right-angled triangle is equivalent to the sum of the squares described on the other two sides..... 4
10. Prove that the perimeters of similar regular polygons are to each other as the radii of their circumscribed or inscribed circles ; and their areas are to each other as the squares of those radii... 4
11. Make and explain the following constructions :
 - (a) To trisect a right angle..... 2
 - (b) The three sides of a triangle being given, to construct the triangle..... 2
 - (c) To construct a fourth proportional to three given straight lines..... 2
12. The chords of a circle intersect ; the segments of one chord are respectively 4 feet and 9 feet, and one segment of the other chord is 8 feet ; find the remaining segment..... 3


 Carefully read and obey the following directions :

 Do you now, at the close of this examination, conscientiously declare that you had no previous knowledge of the questions to be proposed, that you have neither given to any other scholar, nor received from any source, explanation or other aid in answering any of them? If so, write in the next line after the end of your set of answers, near the right side of the paper, the words

"I do SO declare."

and underneath *subscribe your name.*

 Every set of papers lacking this full declaration and signature, however satisfactory, in other respects, will be returned, on the presumption that the required declaration could not conscientiously be made.

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University of the State of New York. 11

32ND ADVANCED ACADEMIC EXAMINATION.

ENGLISH LITERATURE.

MONDAY, November 19, 1888—Time, 1 : 30 to 4 P. M., only.

52 credits, necessary to pass, 39.

1. Give three English nouns derived from the Saxon, and their equivalents derived from the Norman..... 3
2. Who was the author of "Utopia"? Give the subject of the work, and the name of another work by the same author..... 3
3. Describe King Alfred's efforts to improve the literature of England. What great literary work of his reign is still in existence?..... 2
4. What is the character of Joseph Addison's prose; to what magazine did he mainly contribute?..... 2
5. What are the characteristics of Macaulay's style? Mention three of his essays.... 4
6. Contrast the poetry of Burns and Walter Scott, noting two points of difference.. 2
7. To what school did the following authors belong: Wordsworth, Coleridge, and Southey? Give the title of a principal work of each..... 4
8. Give the names of the authors of the following works: (*a*) Tale of a Tub; (*b*) Peveril of the Peak; (*c*) The Virginians; (*d*) Tale of Two Cities; (*e*) The Water Witch..... 5
9. Give the name of the author of each of the following poems: (*a*) A man's a man for a' that; (*b*) The last Rose of Summer; (*c*) To a Water fowl; (*d*) The One Horse Shay; (*e*) English Bards and Scotch Reviewers..... 5
10. Give the names of three authors of the history of England. 3
11. Who wrote: "The Conquest of Peru"?..... 1
12. To what class of writers does each of the following belong: (*a*) Philip Massinger; (*b*) Pope; (*c*) Gibbon; (*d*) Edwin P. Whipple; (*e*) William D. Howells?..... 5

WHITTIER, AND SNOW BOUND.

13. Give a brief sketch of life of Whittier..... 2
14. With what great historical movement is his name connected? Mention two poems produced by him during that movement... 3
15. To what class of Whittier's poems does Snow Bound belong?..... 1
16. What is the subject of the poem? Briefly outline the thought as developed in the poem..... 3
17. Quote twenty lines of the passage beginning: "Shut in from all the world without."..... 2
18. Mention the chief characteristics of Whittier's poetry.... 2

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32ND ADVANCED ACADEMIC EXAMINATION.

HISTORY OF ENGLAND.

FRIDAY, November 23, 1888—Time, 9 : 30 A. M. to 12 M., only.

48 credits, necessary to pass, 36.

1. Who was Boadicea; for what is she famous?..... 2
2. What progress had the people of Britain made in civilization when the Roman rule came to an end?..... 2
3. Describe the advance of learning during the reign of Alfred the Great..... 2
4. Briefly describe the battle of Hastings giving the names of the commanders, the location of the battle, and the importance of the result..... 3
5. Mention an important event in the struggle for human rights which occurred during the reign of King John; also one which occurred during the reign of Charles I..... 2
6. Mention two important battles which occurred during the Wars of the Roses, and give the result of each battle.... 2
7. Mention the territory in France last held by England. During whose reign was it gained; in whose reign was it abandoned; what was the effect of its loss upon the British sovereign?..... 4
8. What was Oliver Cromwell's Irish policy? Describe the massacre of Drogheda..... 2
9. In whose reign was the Irish Parliament abolished? State one of the causes of the present disaffection in Ireland... 2
10. Sketch the character of Henry VIII. What great religious event occurred during his reign..... 2
11. Describe the Rye House plot; state what caused it..... 2
12. What sovereign granted the first charter to the East India Company; when and for what cause was the government of India transferred from that company to the sovereign of England?... 3
13. Describe the battle of the Nile; give the name of the victorious commander and tell during what war the battle occurred..... 3
14. For what is the battle of Balaklava chiefly memorable?.. 1
15. When and how did England gain possession of Cyprus? 2
16. Briefly sketch the character of Prince Albert; state what great industrial event of the reign of Queen Victoria was due mainly to his efforts..... 3

CHARLES I.—HIS PUBLIC SERVICES, TRIAL, CHARACTER.

17. What was the chief point of dispute between Charles I. and the several parliaments of his reign?..... 2
18. Mention two favorite advisers, and two distinguished opponents of Charles I..... 2
19. What act of this king caused much religious trouble in Scotland?..... 2
20. Before what court was Charles I. brought to trial; upon what charge; and what sentence was passed upon him?..... 3
21. Give a brief sketch of the character of Charles I..... 2

University of the State of New York. 15


32ND ADVANCED ACADEMIC EXAMINATION.


MENTAL PHILOSOPHY.

TUESDAY, November 20, 1888—Time 9 : 30 A. M. to 12 M. only.

40 credits, necessary to pass, 30.


1. What is the subject treated of in mental philosophy? Is mental philosophy an inductive science? Give a reason for your answer. 3
2. What is meant by faculties of the mind? Mention the principal mental faculties. 2
3. What is consciousness? Give an example of a physical sensation of which we are unconscious; of mental activity of which we are unconscious. 3
4. Define the terms subjective and objective as used in mental philosophy and give an example of the proper use of each. 4
5. Explain the difference between original and acquired sense-perceptions and give an example of each. 4
6. How is education possible in case of the absence of the senses of sight and hearing? Mention an example of such an instance. 2
7. What is attention, why is it essential to real attainment, and how may habits of attention be acquired? 3
8. What is memory? Mention three secondary laws of association (or suggestion). 4
9. Show how imagination may be used properly and how it may be abused. 2
10. What is judgment and what are its products? ... 2
11. How does judgment differ from knowledge? 1
12. What is reasoning? What is a syllogism and for what is it useful? Write a deductive syllogism. 4
13. Mention three sources of evidence. 3
14. Give any proof of an intuitive faculty and mention two conceptions that are termed intuitions. 3


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and underneath *subscribe your name.*

 Every set of papers lacking this *full declaration and signature*, however satisfactory, in other respects, will be returned, on the presumption that the required declaration could not conscientiously be made.

 Fold your MS. in proper form for filing, and indorse the last leaf with the name of the institution, your own name, the subject, and the date of the examination.

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
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
MORAL PHILOSOPHY.

FRIDAY, November 23, 1888—Time, 9 : 30 A. M. to 12 M., only.

40 credits, necessary to pass, 30.


1. What is moral law? Show that a violation of moral law is followed by a penalty..... 2
2. What is meant by the moral quality of an action; and how is this quality determined?..... 2
3. Show whether conscience is a sufficient guide in action. Show how the power of conscience may be strengthened, and how it may be weakened..... 3
4. Does a good motive justify a bad action? Explain your answer by an example 2
5. Explain the difference between a right and a duty and give an example of each.. 4
6. Why should every person secure the best possible education; why guard the health of the body?..... 2
7. Mention two duties that parents owe to their children and two duties that children owe to their parents..... 4
8. Mention two ways in which property may be acquired, and why a person thus acquiring property has a right to it ... 4
9. What moral law is violated by preventing free discussion; by refusing to reveal crime; by failing to keep a promise; by breaking an oath? 4
10. Why is it our duty to help the unfortunate?..... 1
11. Should we be benevolent to the wicked? Give a reason for your answer 1
12. Upon what are the rights of a majority based? 1
13. What rights have a minority and upon what are those rights based? 2
14. Why should a citizen pay taxes; vote; accept office?... 3
15. Mention two duties that the State owes to its citizens and show why it owes each..... 4
16. In what are the highest rewards of morality found?... 1


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University of the State of New York. '19

32ND ADVANCED ACADEMIC EXAMINATION.

ASTRONOMY.

WEDNESDAY, November 21, 1888—Time 1:30 to 4 P. M. only.

44 credits, necessary to pass, 33.

1. Whose theory did Copernicus revive in his system?..... 1
2. Define rational horizon, celestial equator, ecliptic, equinoxes..... 4
3. What is the shape of the earth's orbit, and what is the position of the sun as regards this orbit? 2
4. Describe the position of the earth with respect to the sun at the solstices and the equinoxes..... 4
5. Give the names of two measurements reckoned from the first point of Aries (or vernal equinox), and mention the circle on which each measurement is made..... 4
6. What is refraction? What is its effect? Where is it greatest? 3
7. What is meant by the moon's libration in latitude? In longitude? 2
8. What is an occultation?..... 1
9. Why is the number of lunar eclipses visible at a given place greater than the number of solar eclipses?..... 1
10. Give the causes of Spring and Neap tides. How often does each occur?..... 4
11. Mention three comets whose orbits are ellipses 3
12. Describe the zodiacal light, with regard to its shape, the times of its appearance and its origin. 3
13. At what rate does light travel? If the nearest fixed star should be destroyed now, when would it disappear from our view? 2
14. What is a sidereal day? A solar day? What causes the difference in length between them? What is equation of time? 4
15. What fact caused confusion in the calendar of the ancients? What change was made by Julius Caesar? By Pope Gregory? 3
- *16. Illustrate by a diagram the aberration of light. Give the cause..... 3
- *16. Illustrate by a diagram the position of a planet in inferior conjunction, and in quadrature..... 3

*The pupil is allowed to choose which of the two questions having the same number he will answer.

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32ND ADVANCED ACADEMIC EXAMINATION.

BOTANY.

WEDNESDAY, November 21, 1888—Time, 9 : 30 A. M. to 12 M. only.

40 credits, necessary to pass, 30.

1. Describe the cotyledons of a plant 2
2. What are biennial plants? Mention two..... 2
3. Diagram a cross section of an exogenous stem showing the position of the parenchyma cells, fibro-vascular bundles and annual rings..... 3
4. What are the living parts of a tree or shrub?..... 2
5. Describe the epidermis of a leaf..... 2
6. Describe the pentastichous or five-ranked arrangement of leaves on the stem..... 2
- *7. Distinguish determinate from indeterminate inflorescence and give two examples of each class..... 3
- *7. Discuss briefly the subject of teratology or retrograde metamorphosis..... 3
8. Is cross fertilization in plants the rule or exception? How is it accomplished; and what is its value?..... 3
9. When is the calyx or corolla of a flower said to be persistent?..... 2
- *10. Give the maximum, minimum, and optimum temperature at which common grains, as corn, wheat &c., grow..... 3
- *10. Of what nature is the smut, observable in late summer, on Indian corn and grain?..... 3
11. What is the essential organ of the stamen?..... 1
12. Define the placenta... .. 2
13. Describe the so-called "circulation of sap" in a plant.... 2
14. What kind of fruits do the raspberry and blackberry plants produce; the apple and pear; the orange?..... 3
15. Mention two common orchids..... 2
16. How do forests affect the water supply of a country? Illustrate..... 3
17. Name three plants of the gymnospermous type... .. 3

*The pupil is allowed to choose which of the two questions having the same number he will answer.

CHEMISTRY.

THURSDAY, November 22, 1888—Time, 1:30 to 4 P. M., only.

44 credits, necessary to pass, 33.

1. Describe the preparation of sulphuric acid; write the reactions; give its chemical properties and its graphic formula. 4
2. Give the chemical name of each of the following: BaCl₂, Cu₂O, Mn O₂..... 3
3. Explain the difference in composition between ferrous sulphate and ferrous sulphide. From what acid was each obtained and for what is each used?..... 3
- *4. Describe two processes by which impure water may be purified and in each case show how the impurities are removed 4
- *4. Mention four binary compounds of nitrogen with oxygen, and after each name write its formula..... 4
5. Explain the construction of the "safety lamp" used by miners, and point out the principle upon which it is constructed..... 2
6. What is an alloy; an amalgam? Give an example of each. 4
7. Distinguish between physical changes and chemical changes and give an example of each 4
8. Mention an instance where heat and one where electricity influences chemical action..... 2
- *9. What is meant by the "combining weight" of a substance? Illustrate this by an example. What is used as the standard of combining weight and why is it used? 4
- *9. Explain the difference between an acid and a base. Show how each is formed and state the electrical condition of each... 4
10. Describe the preparation of hydrogen by the use of zinc and write the reactions..... 4
11. Mention two univalent (monadic) and two trivalent (tryadic) elements..... 2
12. Mention the properties of iodine, its uses, and its principal source..... 3
13. Make a drawing of a blast-furnace, and describe the process of obtaining iron from the ore..... 4
14. How is alcoholic (vinous) fermentation caused? 1

*The pupil is allowed to choose which of the two questions having the same number he will answer.

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32ND ADVANCED ACADEMIC EXAMINATION.

DRAWING.

MONDAY, November 19, 1888—Time, 9 : 30 A. M. to 12 M., only.

The work to be done on sheets of *drawing paper* not smaller than 8 x 12 inches—the Free Hand work upon one sheet, the Instrumental upon another sheet.

96 credits, necessary to pass, 72.

SHEET 1.—FREE HAND.

ARRANGEMENT OF WORK.—Place the paper with the long edges parallel to the front of the desk. Bisect the upper edge. Place a point an inch to the right of the point of bisection. From the second point sketch a vertical to the lower edge of the paper. Draw No. 1 in the left division, No. 2 in the right. Erase the division line when the drawings are complete.

REPRESENTATION.

1. Appearance of two solids below the eye. A cylinder 2" wide and 4" high ; a square prism 2" wide and 4" high. Arrange these two models somewhat below the eye, touching each other, in any way you choose. Draw the appearance of the two models, drawing all invisible edges in light lines. Add a table line.

<i>a.</i> Appearance of cylinder.....	10
<i>b.</i> Appearance of square prism.....	10
<i>c.</i> Relative appearance of the two solids.....	12

DECORATION.

2. Name the three sources from which materials for decorative design may be obtained ; designate the answers *a*, *b* and *c*, respectively, and illustrate *each* answer by two drawings, 2" high. Before beginning to write or draw, consider the space to be occupied, and plan a good arrangement of the answers and illustrations in the space.

Arrangement of answers and illustrations.....	5
<i>a.</i> Answer and illustrations.....	9
<i>b.</i> Answer and illustrations.....	9
<i>c.</i> Answer and illustrations.....	9

SHEET 2.—INSTRUMENTAL.

ARRANGEMENT OF WORK.—Place the paper with the long edge parallel to the front of the desk.

CONSTRUCTION.

3. Draw the front and bottom views of four solids, one of them being a triangular prism. Make the drawings of a size suited to the sheet. Arrange well on the sheet. Construct the drawings with instruments, and leave all construction lines visible.


Write the name of the solid below each bottom view, and also designate what kind of a triangular prism you have drawn.. 32


GEOLOGY.

FRIDAY, November 23, 1888—Time, 1 : 30 to 4 P.M. only.

44 credits, necessary to pass, 33.


1. Define fossil, vein, anticlinal strata, fault, formation, layer. 6
2. Distinguish between igneous and metamorphic rocks, and mention an example of each..... 4
3. To which group of minerals does each of the following belong : mica ; sapphire ; clay ; agate? 4
4. What is dolomite and how does it differ in composition from ordinary limestone?..... 2
5. What was the original position of stratified rocks? Make a drawing showing dislocation of strata..... 2
6. Mention three geological effects produced by the action of the water of the ocean..... 3
7. Describe two ways in which mountains have been produced and mention an example of each... .. 4
8. Give the names and characteristics of the four geological ages, beginning with the earliest. 4
9. To what time and age does the Potsdam (Primordial) period belong and what is the characteristic fossil of that period?..... 3
10. To what geological time does the Devonian Age belong, in what parts of New York State are found rocks belonging to this age, and what two forms of animal life were most prevalent in it? 4
11. Draw an outline of North America as it was in Mesozic time, mention three periods included in this time, and describe the kind of rock characteristic of the third period..... 3
12. What caused the cold of the glacial period, and over what part of North America did glaciers extend?..... 2
13. Mention some of the first indications of the existence of man and state where they were found..... 2
14. Describe the manner in which the soil of the earth has been formed..... 1


 Carefully read and obey the following directions :

 Do you now, at the close of this examination, conscientiously declare that you had no previous knowledge of the questions to be proposed, that you have neither given to any other scholar, nor received from any source, explanation or other aid in answering any of them? If so, write *in the next line after the end of your set of answers*, near the right side of the paper, the words

"I do SO declare."

and underneath *subscribe your name.*

 Every set of papers lacking this *full declaration* and *signature*, however satisfactory, in other respects, will be returned, on the presumption that the required declaration could not conscientiously be made.

 Fold your MS. in proper form for filing, and indorse the last leaf with the name of the institution, your name, the subject, and the date of the examination.

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32ND ADVANCED ACADEMIC EXAMINATION.

PHYSICS ELEMENTARY.

THURSDAY, November 22, 1888—Time, 1 : 30 to 4 P. M., only.

48 credits, necessary to pass, 36.

1. Explain the difference between atoms and molecules..... 2
2. Define tenacity, malleability, weight ; and give an example of each..... 6
3. Explain the difference between adhesion and cohesion and give an example of each..... 4
4. Upon what two things does the pressure of a liquid upon the bottom of a vessel depend ?..... 2
- *5. Make a drawing of a hydrostatic press, describe its parts, and explain the principle upon which the press operates..... 3
- *5. Make a drawing of a lifting pump, describe its parts, and state the principle upon which it is constructed..... 3
6. What principle involving the pressure exerted by liquids is applied in supplying a city with water ?... .. 1
7. Describe an experiment showing that the air has weight. Under what circumstances does the air exert a pressure of about 15 pounds to the square inch ? 2
8. Give Newton's laws of motion..... 3
- *9. What is energy ; and what is meant by the " conservation of energy " ? 2
- *9. Mention the units of work and of energy, and show in what respect they differ. 2
10. If a bullet be dropped from a balloon one mile above the surface of the earth, how long will the bullet be in reaching the ground? 2
11. Give the general law of equilibrium of machines, and the special law which applies to a system of movable pulleys with a single rope..... 2
12. In a lever of the second class what weight will a power of 100 pounds balance with a lever 10 feet long and the weight two feet from the fulcrum ?..... 2
13. How does heat affect the volume of a body and how is this change explained? 2
14. Explain the difference between the high-pressure and the low-pressure steam engine 2
- *15. State the principle upon which an echo is produced ; upon which a musical tone is produced..... 2
- *15. Explain the difference between the fundamental tone and overtones (harmonics)..... 2
16. Distinguish between a ray of light and a beam of light..... 2
17. Explain the difference between reflection and refraction of light..... 2
18. Describe by a drawing the effect of a concave mirror upon parallel rays of light. 2
19. What is meant by the " potential " of electricity ; by an " ohm ? " 2
20. Make a drawing of a telephone, describe its parts, and state the principle upon which the telephone is constructed..... 3

* The pupil is allowed to choose which of the two questions having the same number he will answer.

University of the State of New York. 25

32ND ADVANCED ACADEMIC EXAMINATION.

ADVANCED PHYSICS.

TUESDAY, November 20, 1888—Time, 1 : 30 to 4 P. M., only.

40 credits, necessary to pass, 30.

1. State what is meant by correlation of energy..... 1
2. A seconds pendulum at the level of the sea is so expanded by the heat that it beats 52 times in a minute ; how much is the expansion ?..... 2
3. A power of 50 lbs. applied to a screw driven by a lever $4\frac{1}{4}$ ft. long lifts 400 lbs. How far apart are the threads of the screw ? Give the law..... 3
4. What was Torricelli's experiment ? What instrument is constructed on the principle he discovered ?..... 2
5. What is meant by the absolute zero of temperature ; how is it obtained ?..... 3
6. Define latent heat 2
- *7. Discuss fully Joule's equivalent..... 3
- *7. How many lbs. of steam at 100°C . would be required to raise 1,000 lbs. of water from 0°C . to 50°C . ?..... 3
8. What causes the polarization of the plates in electric batteries ?..... 2
9. Describe the electrophorus and its use..... 2
10. Give Ohm's law for determining the strength of the electric current..... 2
11. How does a Ruhmkorff coil differ from an ordinary induction coil ?..... 2
12. Of what two parts do sound waves consist ? In what direction do they vibrate ?..... 3
13. Describe the phenomenon known as the interference of sound..... 2
14. Can a sound wave be reflected ? Prove your answer.... 2
- *15. Explain by means of a diagram the action of a stereoscope..... 3
- *15. Describe the result of a ray of sunlight acting on a drop of water. Give an example..... 3
16. Discuss polarization of light 2
17. In concave mirrors where must the object be placed in order that the image may be virtual ?..... 2
18. What are actinic rays 2

*The pupil is allowed to choose which of the two questions having the same number he will answer.

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32ND ADVANCED ACADEMIC EXAMINATION.

PLANE TRIGONOMETRY.

THURSDAY, November 22, 1888—Time, 9:30 A.M. to 12:30 P.M. only.

36 credits, necessary to pass, 27.

1. Explain the difference between the characteristic and mantissa of the logarithm of a whole number and that of a decimal fraction. 4
2. The logarithm of 87 is 1.939519. Find the logarithm of the cube of 87, and state the principle employed..... 2
3. The natural sine of an arc 32° is .5299. What operation must be performed on this natural sine to compute the logarithmic sine of the same arc? Give reasons for the operation..... 2
4. Explain the principle upon which the algebraic signs of the trigonometrical functions are determined, and give the sign of the cosine in each of the four quadrants..... 4
5. Draw a diagram showing the relations between the tangent of an arc and its sine and cosine, and deduce the equation showing the value of the tangent 3
6. In a circle whose radius is 50 feet find the following : cosine of 45° ; tangent of 30° 3
7. Prove that $\sin(a-b) = \sin a \cos b - \cos a \sin b$ 4
8. Assuming the values of the functions of the sum and of the difference of two arcs, prove that :
 - (1) $\sin 2a = 2 \sin a \cos a$ and show why your process is correct. 2
 - (2) $\cos p + \cos q = 2 \cos \frac{1}{2}(p+q) \cos \frac{1}{2}(p-q)$ 2
9. Prove that in any right-angled triangle the perpendicular is equal to the base multiplied by the tangent of the angle at the base. 2
10. Prove that in any plane triangle the sum of the sides including either angle is to their difference as the tangent of half the sum of the two other angles is to the tangent of half their difference..... 4
11. In the oblique-angled triangle A B C give the formula to find a when C, B, and c are given..... 1
12. Explain by means of a diagram what measurements and what computations are necessary to determine, trigonometrically, the height of an inaccessible tower above a horizontal plane... 3

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32ND ADVANCED ACADEMIC EXAMINATION.

SOLID GEOMETRY.

MONDAY, November 19, 1888—Time, 1 : 30 to 4 : 30 P. M. only.

36 credits, necessary to pass, 27.

1. Define oblique prism ; frustum of a pyramid ; altitude of a cone ; cylinder ; parallelopiped ; radius of a cylinder..... 6
2. Prove that if a straight line is perpendicular to two straight lines at their point of intersection it is perpendicular to the plane of those lines. 4
3. Write theorems including and completing the following conditions :
 - (a) If a straight line is parallel to a line of a plane — 1
 - (b) If two angles, not situated in the same plane, have their sides parallel and lying in the same direction — 1
 - (c) If a plane be passed through the diagonally opposite edges of a parallelopiped — 1
 - (d) If two parallelopipeds have a common lower base and their upper bases between the same parallels — ... 1
4. Prove that if a pyramid be cut by a plane parallel to the base :
 - (a) The edges and the altitude will be divided proportionally 2
 - (b) The section will be a polygon similar to the base..... 2
5. Prove that any two opposite faces of a parallelopiped are equal and parallel..... 2
6. Prove that the volume of any pyramid is equal to one third the product of its base and altitude 2
7. Prove that similar pyramids are to each other as the cubes of their homologous edges 3
8. What relation exists between volumes of similar cylinders ; of similar cones ; of similar spheres ?... 3
9. Give the formula for finding each of the following : the volume of any prism ; the lateral area (convex surface) of a prism ; the volume of the frustum of a triangular pyramid ; the lateral area (convex surface) of a cylinder ; the volume of a cylinder ; the volume of a sphere..... 6
- 10 Find the number of square feet in the surface of a stone 12 feet long, 3 feet wide and two feet high..... 2

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32ND ADVANCED ACADEMIC EXAMINATION.

ZOOLOGY.

WEDNESDAY, November 21, 1888—Time, 1:30 to 4 P. M. only.

36 credits, necessary to pass, 27.

1. To what is the phenomenon, known as a phosphorescent sea, attributable?..... 2
2. Account for the formation of barrier reefs about coral islands..... 2
3. What principally distinguishes the Echinoderms from the Coelenterates, and places them higher in the scale of animal life. 2
4. How long does it take an oyster to attain full growth; can you give a reason for the origin of the popular aversion to eating oysters between April and September?..... 2
5. Mention two air breathing mollusks..... 2
6. To what class do the Trilobites belong; where do we find traces of them?..... 2
- *7. Describe fully the nervous system of insects..... 3
- *7. Give the life history of the dragon fly, (*Libellulidæ*).... 3
8. Describe the metamorphosis of the Colorado beetle or potato bug. Discuss its history and destructive powers..... 3
9. Give the names of the sub-classes of fishes under the class Pisces, and mention an example of each..... 3
10. In what part of the water do the eggs of the mackerel and cod develop?..... 1
11. How are the young of turtles hatched and nourished?.. 2
- *12. Describe the porcupine. How does the animal defend itself from attack?.... 2
- *12. Describe the structure of the foot and stomach of a camel..... 2
13. How do bird's eggs compare in size proportionally with those of other vertebrates?..... 2
14. Name some of the principal wading birds, and the localities in which they are found..... 3
15. Describe fully the life of any Ruminant..... 2
16. How do hibernating animals sustain life during winter? 1
17. Give the general characteristics of the Primates..... 2

*The pupil is allowed to choose which of the two questions having the same number he will answer.

CÆSAR'S COMMENTARIES.

WEDNESDAY, November 21, 1888.—Time, 9:30 A.M. to 12 M. only.

100 credits, necessary to pass, 75.

1. Translate :

(a) His responsis ad Caesarem *relatis* iterum ad eum Caesar legatos cum his mandatis mittit : Quoniam tanto suo populique Romani beneficio affectus, quum in consulatu suo *rex* atque amicus a senatu appellatus esset, hanc sibi populoque Romano gratiam *referret ut in colloquium venire invitatus gravaretur neque de communi re dicendum sibi et cognoscendum putaret, haec esse quae ab eo postularet* : primum, ne quam *multitudinem* hominum *amplius* trans Rhenum in Galliam *transduceret* ; deinde obsides quos haberet ab Aeduis *redderet*, Sequanisque permitteret ut quos illi haberent *voluntate ejus reddere* illis liceret.—Book I., 35.

(b) Compluribus expugnatis oppidis Caesar, ubi *intellexit* frustra tantum laborem sumi neque hostium fugam captis *oppidis reprimi* neque *his* noceri posse, statuit exspectandam *classem*. Quae ubi convenit ac primum ab hostibus visa est, circiter cccx naves eorum paratissimae atque omni genere armorum ornatissimae profectae ex portu nostris adversae constiterunt ; neque satis Bruto qui classi *praeerat*, vel tribunis militum centurionibusque quibus singulae naves erant attributae, constabat quid *agerent* aut quam rationem pugnae insisterent.—Book III., 14.

(c) Acie triplici instituta et *celeriter* octo milium itinere *confecto*, prius ad hostium castra pervenit quam quid ageretur Germani *sentire possent*. Qui omnibus subito perterriti et celeritate adventus nostri et discessu suorum, neque consilii *habendi* neque arma *capiendi* spatio *dato*, perturbantur copiasne adversus hostem ducere, an castra defendere, an *fuga* salutem petere praestaret.

—Book IV., 14..... 42

2. Explain the mood of (a) *referret, esse, reddere, (b) agerent, (c) sentire* 5
3. Give and explain the case of (a) *sibi*, line 6, *quae, (b) oppidis, his, classem, (c) fuga*..... 12
4. Give the syntax of the clause (a) *ut—putaret*..... 1
5. What forms of the verb are (c) *habendi* and *capiendi*?..... 2
6. Select from (b) a passive verb used impersonally, from (c) an example of tmesis. 2
7. Give the principal parts of (a) *relatis, cognoscendum, redderet, (b) reprimi, praeerat, (c) dato*..... 12
8. Write the stem of each of the following nouns, and explain the formation of the nominative : (a) *rex, voluntate, (b) classem*. 6
9. Compare (a) *amplius, (c) celeriter* 2
10. Give the present stem and the perfect stem of (a) *putaret, transduceret*..... 4
11. Give the composition of (b) *intellexit, (c) confecto*, with the meaning of each part..... 4
12. Decline in both numbers, (a) *multitudinem, (c) rebus*..... 4
13. Conjugate, in the imperfect, indicative, active, (a) *postularet* ; in the present indicative, (c) *possent*..... 4

SALLUST'S CATALINE.

TUESDAY, November 20, 1888.—Time, 9 : 30 A. M. to 12 M. only.

100 credits, necessary to pass, 75.

1. Translate :

(a) Postea vero quam in Asia Cyrus, in Graecia Lacedaemonii et Athenienses coepere urbis atque nationes *subigere*, lubricum dominandi causam belli habere, maximam *gloriam* in maximo imperio putare, tum demum periculo atque negotiis compertum est in bello plurimum ingenium *posse*. Quod si regum atque imperatorum animi virtus in pace ita ut in bello valeret, aequabilis atque *constantius* sese res humanae haberent, neque *aliud* alio ferri neque mutari ac misceri omnia *cerneres*. Nam imperium facile his artibus *retinetur*, quibus initio *partum est*. Verum ubi pro labore desidia, pro continentia et aequitate libido atque superbia invasere, fortuna simul cum moribus immutatur. Ita imperium semper ad optimum quemque a minus bono *transfertur*.—Chapter 2.

(b) Igitur talibus viris non labor insolitus, non locus ullus asper aut arduus erat, non armatus hostis formidolosus ; virtus omnia domuerat. Sed gloriae maximum certamen inter ipsos erat ; sic se quisque hostem ferire, murum ascendere, *conspici* dum tale facinus *faceret*, properabat ; *eas* divitias, eam bonam *famam* magnamque nobilitatem putabant ; laudis avidi, pecuniae *liberales* erant ; gloriam *ingentem*, divitias honestas volebant. Memorare possem, quibus in locis maximas hostium copias populus Romanus parva manu *fuderit*, quas urbis natura munitas pugnando ceperit, ni ea res longius nos ab incepto traheret.—Chapter 7.

(c) Nunc vero non id *agitur* bonisne an malis moribus *vivamus*, neque quantum aut quam magnificum imperium populi Romani sit, sed haec cujuscumque modi videntur, nostra an nobiscum una hostium futura sint. Hic mihi quisquam mansuetudinem et misericordiam nominat ? Jampridem equidem nos vera vocabula rerum amissimus ; quia bona aliena largiri liberalitas, malarum rerum audacia fortitudo *vocatur*, eo res publica in extremo *sita est*. *Sint* sane, quoniam ita se mores habent, liberales ex sociorum fortunis, sint *misericoles* in furibus aerarii ; ne illi sanguinem nostrum largiantur, et dum paucis sceleratis parcunt, bonos omnis perditum eant.—Chapter 52. 54

2. Explain the conditional sentence in (a), giving protasis and apodosis 2

3. Give the antecedent of *eas* (b). Explain the form of the pronoun 2

4. Explain the mood of (b) *faceret*, *fuderit*, (c) *vocatur*, *sint*. 4


5. Give the syntax of (a) *posse*, (b) *famam*, *ingentem*..... 3
 6. Give the principal parts of (a) *cerneres*, *partum est*, (b) *conspici*, (c) *vivamus*, *sita est*..... 10
 7. Decline *aliud* (a) in the singular, *quibus* (a) in both numbers..... 6
 8. Give a synopsis of *transfertur* (a) in the third person, singular number, indicative mood (both voices)..... 6
 9. Give the derivation of the following words, with the meaning of each part : (a) *subigere*, *retinetur*, (b) *liberales*, (c) *miseri cordes*. 8
 10. What figure of syntax in the first sentence of (a) ?..... 1
 11. Compare *constantius* (a), *longius* (b)..... 2
 12. Conjugate *agitur* (c), in the voice, mood and tense here found..... 2


OPTIONAL. TRANSLATION AT SIGHT.

If the extract below is correctly translated 6 credits will be allowed, as compensating for errors in translation only of the paper.

Quae postquam sine mora facta sunt, jubet omnis per fugas vinetos adduci. Eorum magna pars, uti jussum erat, adducti; pauci, quum primum deditio coepit, ad regem Bocchum in Mauretaniam abierant. Igitur Jugurtha, ubi armis virisque et pecunia spoliatus est, quum ipse ad imperandum Tisidium vocaretur, rursus coepit flectere animum suum et ex mala conscientia digna timere.


—Jugurtha, Chap. 62..... 6


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 Do you now, at the close of this examination, conscientiously declare that you had no previous knowledge of the questions to be proposed, that you have neither given to any other scholar, nor received from any source, explanation or other aid in answering any of them? If so, write *in the next line after the end of your set of answers*, near the right side of the paper, the words

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 Every set of papers lacking this *full declaration* and *signature*, however satisfactory, in other respects, will be returned, on the presumption that the required declaration could not conscientiously be made.

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32ND ADVANCED ACADEMIC EXAMINATION.

VIRGIL'S ÆNEID.

TUESDAY, November 20, 1888.—Time, 1 : 30 to 4 P. M. only.

100 credits, necessary to pass, 75.

1. Translate :

- (a) Extemplo Aeneae solvuntur frigore membra ;
Ingemit, et duplicis tendens ad sidera palmas
Talia voce refert : O terque quaterque beati,
Quis ante ora patrum Troiae sub moenibus altis
Contigit oppetere ! o Danaum fortissime *gentis*
Tydide ! mene Iliacis *occumbere* campis
Non *potuisse* tuaque animam hanc *effundere* dextra,
Saevus ubi Aeacidæ telo iacet Hector, ubi ingens
Sarpedon, ubi tot Simois correpta sub undis
Scuta virum galeasque et fortia corpora volvit ?
—Book I., 92-101

- (b) Namque avia cursu
Dum sequor et nota excedo regione viarum,
Heu ! misero *coniunx* fatone erepta Creusa
Substitit, erravitne via, seu lassa resedit,
Incertum ; nec post oculis est reddita nostris.
Nec prius amissam respexi animumque reflexi,
Quam *tumulum* antiquae Cereris sedemque sacratam
Veninus ; hic demum collectis omnibus una
Defuit, et comites natumque virumque fefellit.
Quem non incusavi amens hominumque deorumque,
Aut quid in eversa vidi crudelius urbe ?
—Book II., 736-746.

- (c) Vixi, et, quem dederat cursum fortuna, peregi ;
Et nunc magna mei sub terras ibit imago.
Urbem praeclaram statui ; mea moenia vidi ;
Ultra virum, poenas inimico a *fratre* recepi ;
Felix, heu nimium felix, si litora tantum
Numquam Dardaniae *tetigissent* nostra carinae !
Dixit, et, *os inpressa* toro, Moriemur inultae ?
Sed moriamur, ait. Sic, sic iuvat ire sub umbras.
Hauriat hunc oculis ignem crudelis ab alto
Dardanus, et nostrae secum ferat omnia mortis.
—Book IV., 653-662.

- (d) Exspectata dies aderat nonamque serena
Auroram Phaethontis equi iam luce vehebant,
Famaque finitimos et clari nomen Aestae

Excierat ; laeto complebant litora coetu,
Visuri Aeneadas, pars et certare parati.

—Book V., 104-108..... 70

2. Decline (*b*) *coniunx*..... 2
3. Explain the case of (*a*) *quis, gentis, (c) os, impressa*... .. 4
4. Explain the following infinitives : (*a*) *occumbere, potuisse*... 2
5. What will you say of the indicative mood in *substitit (b) ?*
Of *tumulum, (b) ?*..... 2
6. Select from (*a*) a patronymic ; from (*b*) an example of tmesis ;
from (*c*) an example of synecdoche 3
7. What figure of etymology is found in the last line of (*a*) ? 1
8. Who was Ceres ? Who was Phaethon ?..... 2
9. Who is referred to in *fratre (c) ?* In *Dardanus ?*..... 2
10. Select an example of ecthipsis..... 1
11. Give a reason for the quantity of the italicised vowel in each
of the following words : (*a*) *solvuntur, sidera, Danaum, Iliacis,*
(*b*) *via, vidi*..... 6
12. Give the present and the perfect stems of (*a*) *effundere, (c)*
tetigissent... .. 4
13. What poet did Virgil take as his model in writing the
Aeneid ?..... 1

OPTIONAL. TRANSLATION AT SIGHT.

NOTE : The correct translation of the passage below may count 8 credits to be allowed as compensating for errors in the translation only of the above paper.

Talibus orabat Iuno, cunctique fremebant
Caelicolae adsensu vario ; ceu flamina prima
Cum deprensa fremunt silvis, et caeca volutant
Murmura, venturos nautis prodentia ventos.
Tum Pater omnipotens, rerum cui prima potestas,
Infit ; eo dicente deum domus alta silescit,
Et tremefacta solo tellus ; silet arduus aether ;
Tum Zephyri posuere ; premit placida aequora pontus.

—Book X., 96-103..... 8

VOCABULARY.

<i>ceu</i>	= just as.
<i>flamen</i>	= gale.
<i>deprehendo</i>	= to confine.
<i>prodo</i>	= to bring forth.

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32ND ADVANCED ACADEMIC EXAMINATION.

VIRGIL'S ECLOGUES.

MONDAY, November 19, 1888.—Time, 9 : 30 A. M. to 12 M. only.

100 credits, necessary to pass, 75.

1. Translate :

- (a) Nec sum adeo informis : nuper me in litore vidi,
Cum placidum ventis staret mare ; non ego Daphnim
Judice te metuam, si numquam *fallit* imago.
O tantum *libeat* mecum tibi sordida rura
Atque *humilis* habitare casas, et figere cervos,
Haedorumque gregem viridi compellere hibisco !
Mecum una in silvis *imitabere* Pana *canendo*.

—Eclogue II., 25–31.

- (b) Exstinctum Nymphae crudeli funere Daphnim
Flebant ; vos coryli *testes* et flumina Nymphis ;
Cum *complexa* sui corpus miserabile nati
Atque deos atque astra vocat *crudelia* mater.
Non ulli pastos illis *egere* diebus
Frigida, Daphni, boves ad flumina : nulla nec amnem
Libavit quadrupes, nec graminis *attigit* herbam.
Daphni, tunc Poenos etiam *ingemuisse* leones
Interitum montesque feri silvaeque loquuntur.

—Eclogue V., 20–28.

- (c) Quae *nemora*, aut qui vos saltus habnere, puellae
Naides, indigno cum Gallus amore peribat ?
Nam neque Parnasi vobis iuga, nam neque Pindi
Ulla moram fecere, neque Aonie Aganippe.
Illum etiam lauri, etiam flevere myricae ;
Pinifer illum etiam sola sub rupe iacentem
Maenalus et gelidi fleverunt saxa Lycaei.
Stant et oves circum ;—nostri nec poenitet illas,
Nec te poeniteat pecoris, divine poeta :
Et formosus ovis ad flumina pavit Adonis—
Venit et upilio ; tardi venere subulei ;
Uvidus hiberna venit de glande Menalcas.
Omnes, Unde amor iste, rogaut, tibi ?

—Eclogue X., 9–21.

- (d) Haec sat erit, divae, vestrum cecinisse poetam,
Dum sedet et gracili fiscellam textit hibisco,
Pierides ; vos haec facietis maxuma Gallo,
Gallo, cuius amor tantum mihi crescit in horas,
Quantum vere novo viridis se subiicit alnus.

—Eclogue X., 70–74..... 68


2. Write in Latin the clause to which *iudice te* (a) is equivalent 2
3. Explain the mood of the following verbs : (a) *fallit, libeat*, (b) *ingemuisse* 3
4. Give the syntax of (a) *habitare*, (b) *testes* 2
5. Give the principal parts of (a) *fallit, canendo*, (b) *complexa, attigit*. 8
6. Decline (b) *crudelia*, (c) *nemora*, in both numbers 5
7. Give other forms for (a) *humilis, imitabere*, (b) *egere*. 3
8. Whom is Daphnis (b) thought to represent? 1
9. With what one of the goddesses was Adonis a favorite?... 1
10. Write lines 5 and 6 of (c), marking quantity, division into feet, and caesuras. What two figures of prosody in line 5? 6
11. What scenery is described in the Eclogues? 1


OPTIONAL. TRANSLATION AT SIGHT.

If the extract below is correctly translated, 5 credits will be allowed which will be counted as making up deficiencies in the translation only of the above paper.

Hic pater omnipotens ter caelo clarus ab alto
 Intonuit, radiisque ardentem lucis et auro
 Ipse manu quatiens ostendit ab aethere nubem.
 Diditur hic subito Troiana per agmina rumor,
 Advenisse diem, quo debita moenia condant.


Aeneid VII., 141-145. 5


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“ *I do SO declare.*”

and underneath *subscribe your name.*

 Every set of papers lacking this *full declaration* and *signature*, however satisfactory, in other respects, will be returned, on the presumption that the required declaration could not conscientiously be made.

 Fold your MS. in proper form for filing, and indorse the last leaf with the name of the institution, your own name, the subject, and the date of the examination.

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32ND ADVANCED ACADEMIC EXAMINATION.

CICERO, Six Orations.

FRIDAY, November, 23, 1888.—Time, 1 : 30 to 4 P. M. only.

100 credits, necessary to pass, 75.

1. Translate :

(a) Omnia sunt externa unius virtute terra marique pacata : domesticum bellum manet, intus insidiae sunt, intus inclusum periculum est, intus est hostis. Cum luxuria nobis, cum amentia, cum scelere certandum est. Huic ego me bello ducem *profiteor*, Quirites : *suscipio inimicitias* hominum perditorum : quae sanari poterunt, quacumque ratione sanabo : quae resecanda erunt, non *patiar* ad perniciem civitatis manere. Proinde aut exeant aut quiescant aut, si et in urbe et in eadem mente *permanent*, ea quae merentur *expectent*.—In Catilinam, II., 5.

(b) Quibus pro tantis rebus, Quirites, nullum ego a vobis praemium virtutis, nullum insigne honoris, nullam monumentum laudis postulo praeterquam huius diei memoriam *sempiternam*. In animis ego vestris omnes triumphos meos, omnia ornamenta honoris, monumenta gloriae, laudis insignia condi et collocari volo. Nihil me mutum potest delectare, nihil tacitum, nihil denique eius modi, quod etiam minus digni adsequi *possint*.—In Catilinam, III., 11.

(c) Qua re si propter socios nulla ipsi iniuria lacessiti maiores nostri cum Antiocho, cum Philippo, cum Aetolis, cum Poenis bella gesserunt, quanto vos studio convenit iniuriis provocatos sociorum salutem una cum imperii vestri dignitate defendere, praesertim cum de maximis vestris vectigalibus agatur? Nam ceterarum provinciarum vectigalia, Quirites, *tanta* sunt, ut *iis ad ipsas provincias tutandas* vix contenti esse possimus, Asia vero tam opima est ac *fertilis*, ut et ubertate agrorum et varietate fructuum et *magnitudine* pastionis et multitudine earum rerum, quae *exportentur*, *facile* omnibus terris antecellat.—Pro Lege Manilia, VI.

(d) An tu existimas aut suppetere *nobis* posse quod cotidie *dicamus* in tanta varietate rerum, nisi animos nostros doctrina *excolamus*, aut ferre animos tantam posse contentionem, nisi eos doctrina eadem relaxemus? Ego vero fateor me his studiis esse deditum : ceteros pudeat, si qui se ita litteris *abdiderunt*, ut nihil possint ex his neque ad communem adferre fructum neque in aspectum lucemque proferre : me autem quid *pudeat*, qui tot *annos* ita vivo, *iudices*, ut a nullius umquam me tempore aut commodo aut otium meum abstraxerit aut voluptas avocarit aut denique somnus retardarit?—Pro Archia Poeta, VI. 58

2. Explain the mood of (a) *permanent*, *expectent*, (b) *possint*, (d) *pudeat*, line 7..... 4


3. Explain the case of (c) *iis*, (d) *nobis*, *annos*..... 3


4. Give the syntax of the clause *quod dicamus* (*d*)..... 1
5. What is the force of *tanta* (*c*)?..... 1
6. Give the Latin word from which each of the following is derived, directly: (*a*) *inimicitias*, (*b*) *sempiternam*, (*c*) *fertilis*, *magnitudine*, *facile*.. 5
7. Give the composition of each of the following, with the meanings of the parts: (*a*) *suscipio*, (*c*) *exportentur*, (*d*) *abdiderunt*..... 6
8. Mention an ally in whose behalf one of the wars spoken of in (*c*) was fought..... 1
9. Give the syntax of each word in the phrase *ad ipsas provincias tutandas* (*c*). Could the gerund be used?..... 4
10. Conjugate, in the voice, mood and tense here found, (*a*) *profiteor*, (*d*) *excolamus*..... 4
11. Decline, in both numbers, (*d*) *iudices* 2
12. Give a synopsis of (*a*) *patiar*, in the third person singular of all the tenses of the indicative.. 6
13. In what year were the orations against Catiline delivered? Where and before whom were the second and third delivered? 5

OPTIONAL. TRANSLATION AT SIGHT.

If the passage below is correctly translated, 6 credits will be allowed, which will be counted as making up deficiencies in the translation only of this paper.


Adhuc, C. Caesar, Q. Ligarius omni culpa vacat. Domo est egressus non modo nullum ad bellum, sed ne ad minimam quidem suspicionem belli: legatus in pace profectus est: in provincia pacatissima ita se gessit, ut ei pacem esse expediret. Profectio certe animum tuum non debet offendere: num igitur remansio? Multo minus. Nam profectio voluntatem habuit non turpem, remansio necessitatem etiam honestam.—Pro Ligario, II.... 6


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32ND ADVANCED ACADEMIC EXAMINATION.

LATIN PROSE COMPOSITION.

THURSDAY, November 22, 1888.—Time, 1 : 30 to 4 P. M. only,

48 credits, necessary to pass, 36.

Translate :

1. The Swabians boast that not even the gods are a match for them..... 3
2. An honorable death is better than a disgraceful life 2
3. O the delusive hope of man, and his uncertain fortune !... 2
4. He excelled his fellow-citizens in reverence for the laws of the country 4
5. Some one may [perhaps] say that this was done rashly..... 3
6. Caesar came to see Ariovistus 2
7. A life without friendship would be dreary 2
8. The Helvetians, also, excel the remaining Gauls in valor, because they contend with the Germans in almost daily battles.. 5
9. When that was reported to Caesar, he hastened to set out from the city, and by the greatest possible journeys pushed on into farther Gaul..... 7
10. Divico replied, that the Helvetians had been so trained by their ancestors that they were accustomed to receive hostages, not to give them ; that the Roman people was a witness to that fact. 10
11. On the following day they moved the camp from that place. Caesar did the same, and sent forward his cavalry to see into what regions the enemy went. (Use relative clause of purpose)..... 8

VOCABULARY.

a match for	= <i>par.</i>
delusive	= <i>fallax.</i>
rashly	= <i>temere.</i>
dreary	= <i>tristis.</i>
excel	= <i>praece</i> do.
daily	= <i>quotidianus.</i>
to train	= <i>instituere.</i>
to be accustomed	= perfect of <i>consuesco.</i>
witness	= <i>testis.</i>
to send forward	= <i>praemittere.</i>
region	= <i>pars.</i>

XENOPHON'S ANABASIS.

MONDAY, November 19, 1888.—Time, 1 : 30 to 4 P. M. only.

100 credits, necessary to pass, 75.

1. Translate :

(a) Book I., Chap. IV., 14, 15 :

"Ἄνδρες ἐὰν ἐμοὶ πεισθῆτε, οὔτε κινδυνεύσαντες οὔτε πονήσαντες τῶν ἄλλων πλέον προτιμήσεσθε στρατιωτῶν ὑπὸ Κύρου. Τί οὖν κελεύω ποιῆσαι; Νῦν δέϊται Κύρος ἔπεσθαι τοὺς Ἕλληνας ἐπὶ βασιλέα· ἐγὼ οὖν φημι ὑμᾶς χρῆναι διαβῆναι τὸν Εὐφράτην ποταμὸν πρὶν δῆλον εἶναι ὅτι οἱ ἄλλοι Ἕλληνες ἀποκρυνοῦνται Κύρῳ. Ἦν μὲν γὰρ ψηφίσωνται ἔπεσθαι, ὑμεῖς δόξετε αἴτιοι εἶναι, ἄρξαντες τοῦ διαβαίνειν· καὶ ὡς προθυμοτάτοις οὖσιν ὑμῖν χάριν εἴσεται Κύρος καὶ ἀποδώσει· ἐπίσταται δ' εἴ τις καὶ ἄλλος· ἦν δὲ ἀποψηφίσωνται οἱ ἄλλοι, ἄπιμεν μὲν ἅπαντες τοῦμπαλιν ὑμῖν δ', ὡς μόνοις πειθομένοις, πιστοτάτοις χρήσεται καὶ εἰς φρούρια καὶ εἰς λοχαγίας· καὶ ἄλλου οὔτινος ἂν δέησθε, οἶδα ὅτι ὡς φίλοι τεύξεσθε Κύρου.

(b) Book II., Chap. III., 24, 25, 26 :

Ἀκούσας δὲ ὁ Τισσαφένης ἔφη· Ταῦτα ἐγὼ ἀπαγγελῶ βασιλεῖ, καὶ ὑμῖν πάλιν τὰ παρ' ἐκείνου· μέχρι δ' ἂν ἐγὼ ἦκω, αἱ σπονδαὶ μενόντων ἀγορὰν δὲ ἡμεῖς παρέξομεν. Καὶ εἰς μὲν τὴν ὑστεραίαν οὐχ ἦκεν ὥσθ' οἱ Ἕλληνες ἐφρόντιζον τῇ δὲ τρίτῃ ἦκων ἔλεγεν ὅτι διαπεπραγμένος ἦκοι παρὰ βασιλέως δοθῆναι αὐτῷ σῶζειν τοὺς Ἕλληνας, καίπερ πάντων πολλῶν ἀντιλεγόντων ὡς οὐκ ἄξιον εἶη βασιλεῖ ἀφείναι τοὺς ἐφ' ἑαυτὸν στρατευσαμένους. Τέλος δὲ εἶπε· Καὶ νῦν ἔξεστιν ὑμῖν πιστὰ λαβεῖν παρ' ἡμῶν, ἢ μὴν φιλίαν παρέξειν ὑμῖν τὴν χώραν καὶ ἀδόλως ἀπάξειν εἰς τὴν Ἑλλάδα, ἀγορὰν παρέχοντας. Ὅπου δ' ἂν μὴ ἦ πρίασθαι, λαμβάνειν ὑμᾶς ἐκ τῆς χώρας εἰσομεν τὰ ἐπιτήδεια..... 48

2. Decline (a) οὔτινος, in singular. (Give both longer and shorter forms)..... 4

πονήσαντες, in singular..... 3

(b) πολλῶν, in plural..... 3

3. Give the principal parts of (a) πεισθῆτε, διαβῆναι, δόξετε, τεύξεσθε; (b) ἀπαγγελῶ..... 10

4. Conjugate in the voice, mood and tense here found (a) προτιμήσεσθε, ψηφίσωνται; (b) μενόντων..... 9

5. Explain the mood of (a) χρῆναι, ψηφίσωνται, δέησθε; (b) ἦκοι..... 4

6. Explain the case of (a) στρατιωτῶν, τοὺς Ἕλληνας, ἄλλου; (b) τρίτῃ..... 4


7. What form of the verb might be used instead of ἐφρόντιζον (b), line 4?..... 1
8. Explain the use of ὡς (a), line 7..... 1
9. Give the simple stem (or verb stem) of each of the following verbs: (a) ἄρξαντες, διαβαίνειν; (b) ἔλεγεν..... 3
10. Give a synopsis of ποιέω in the third person singular of the indicative, active; of πείθω in the third person singular of the indicative, middle..... 6
11. Compare αἴτιοι, προθυμοτάτοις (a)..... 2
12. Give the positive of πλέον (a); form an adverb from ἄξιον (b)..... 2


OPTIONAL. TRANSLATION AT SIGHT.

NOTE: If the extract below is correctly translated, 5 credits will be allowed which will be counted as making up deficiencies in the estimate of the translation only of the above paper.

Book VII., Chap. I., 13, 14:


Ὁ δὲ Ἀναξίβιος συγκαλέσας τοὺς στρατηγούς καὶ τοὺς λοχαγούς ἔλεξε· Τὰ μὲν ἐπιτήδεια, ἔφη, λαμβάνετε ἐκ τῶν Θρακίων κωμῶν εἰσὶ δὲ αὐτόθι πολλαὶ κριθαὶ καὶ πυροὶ καὶ τᾶλλα τὰ ἐπιτήδεια λαβόντες δὲ πορεύεσθε εἰς Χερρόνησον, ἐκεῖ δὲ Κυνίσκος ὑμῖν μισθοδοτήσει. Ἐπακούσαντες δὲ τινες τῶν στρατιωτῶν ταῦτα ἦ καὶ τῶν λοχαγῶν τις διαγγέλλει εἰς τὸ στράτευμα..... 5


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 Fold your MS. in proper form for filing, and indorse the last leaf with the name of the institution, your own name, the subject, and the date of the examination.

HOMER'S ILIAD.

WEDNESDAY, November 21, 1888—Time, 1 : 30 to 4 P.M. only.

100 credits, necessary to pass, 75.

1. Translate :

(a) Book I., 43-52 :

Ἄσ' ἔφατ' εὐχόμενος · τοῦ δ' ἔκλυε Φοῖβος Ἄπόλλων.

Βῆ δὲ κατ' Οὐλύμποιο καρήνων, χωόμενος κῆρ,

Τόξ' ὤμοισιν ἔχων ἀμφορεφέα τε φαρέτρην ·

Ἐκλαγξαν δ' ἄρ' οὔστοι ἐπ' ὤμων χωομένοιο,

Αὐτοῦ κινηθέντος · ὁ δ' ἦε νυκτὶ εἰοκῶς.

Ἐξέτ' ἔπειτ' ἀπάνευθε νεῶν, μετὰ δ' ἰὸν ἔηκεν ·

Δεινὴ δὲ κλαγγὴ γένητ' ἀργυρέοιο βιοῖο.

Οὐρῆας μὲν πρῶτον ἐπώχετο καὶ κύνας ἀργούς ·

Αὐτὰρ ἔπειτ' αὐτοῖσι βέλος ἔχεπευκὲς ἐφειίς,

Βάλλ' · αἰεὶ δὲ πυραὶ νεκύων καίοντο θαμειαί.

(b) Book II., 16-27 :

Ἄσ' φάτο · βῆ δ' ἄρ' Ὀνειρος, ἐπεὶ τὸν μῦθον ἄκουσεν.

Καρπαλίμως δ' ἴκανε θεὰς ἐπὶ νῆας Ἀχαιῶν ·

Βῆ δ' ἄρ' ἐπ' Ἀτρεΐδην Ἀγαμέμνονα · τὸν δ' ἐκίχανεν

Εὐδοντ' ἐν κλισίῃ, περὶ δ' ἀμβρόσιος κέχυθ' ὕπνος.

Στῆ δ' ἄρ' ὑπὲρ κεφαλῆς, Νηληϊῶ υἱὶ εἰοκῶς,

Νέστορι, τὸν ῥα μάλιστα γερόντων τῷ Ἀγαμέμνων ·

Τῷ μιν εἰσάμενος προσεφώνεε θεῖος Ὀνειρος ·

Εὔδεις, Ἀτρέος υἱὲ δαΐφρονος, ἱπποδάμοιο ;

Οὐ χρεὶ παννύχιον εὔδειν βουλευφόρον ἄνδρα,

Ἄλαοί τ' ἐπιτετράφαται, καὶ τόσσα μέμηλεν.

Νῦν δ' ἐμέθεν ξύνες ὄκα · Διὸς δέ τοι ἄγγελός εἰμι,

Ὅς σευ, ἀνευθεν ἐὼν, μέγα κήδετα ἦδ' ἐλεαίρει.

(c) Book III., 171-177 :

Τὸν δ' Ἐλένη μύθοισιν ἀμείβετο, διὰ γυναικῶν ·

Αἰδοῖός τέ μοι ἔσσι, φίλε ἔκυρέ, δεινός τε ·

Ἄσ' ὄφελεν θάνατός μοι ἀδεῖν κακός, ὅππότε δεῦρο

Τίεϊ σῶ ἐπόμεν θάλαμον γνωτούς τε λιποῦσα,

Παῖδά τε τηλυγέτην καὶ ὀμηλικὴν ἔρατεινήν.

Ἄλλὰ τάγ' οὐκ ἐγένοντο · τὸ καὶ κλαίουσα τέτηκα.—

Τοῦτο δέ τοι ἐρέω, ὃ μ' ἀνείρειαι ἠδὲ μεταλλάξ ·

(d) Book III., 390-395 :

Δεῦρ' ἴθ' · Ἀλέξανδρός σε καλεῖ οἰκόνδε νέεσθαι.

Κεῖνος ὄγ' ἐν θαλάμῳ καὶ δινωτοῖσι λέχεσσιν,

Κάλλει τε στίλβων καὶ εἵμασιν· οὐδέ κε φαίης

ἼΑνδρὶ μαχησάμενον τόνγ' ἔλθειν, ἀλλὰ χορόνδε

Ἔρχεσθ', ἠὲ χοροῖο νέον λήγοντα καθίζειν.

Ὡς φάτο· τῇ δ' ἄρα θυμὸν ἐνὶ στήθεσσιν ὄριεν· 70

2. Give the Attic forms for (a) βῆ, Οὐλύμπιοι, ἦε, αὐτοῖσι; (b) ἄκουσεν, ἐπιτετράφαται; (c) ἔσσι. 7

3. From what verb is each of the following, and where is it made: (a) κινηθέντος, Ἔζετ', ἔηκεν; (b) κέχυθ'; (c) λιπούσα, ἐρέω? 6

4. To what class of derivatives does Ἄτρειδην belong? 1

5. Give the case and syntax of (a) κῆρ, αὐτοῦ; (b) γερόντων; (d) χοροῖο. 8

6. Copy the 4th and 5th lines of (a) marking quantity, division into feet, and caesuras. 4

7. Where was the Olympus mentioned in (a)? 1

8. Give the syntax of (b) εὔδειν; (c) ἀδεῖν. 2

9. Who is referred to in Τιείῃ σῶ (c)? 1

OPTIONAL. TRANSLATION AT SIGHT.

If the extract below is correctly translated, 6 credits will be allowed which will be counted as making up deficiencies in the translation only of the above paper.

Book V, 115-120:

Κλυθί μοι αἰγιόχοιο Διὸς τέκος, Ἄτρυτώνη,
 Εὔποτέ μοι καὶ πατρὶ φίλα φρονέουσα παρέστης
 Δηῖφ' ἐν πολέμῳ, νῦν αὖτ' ἐμὲ φίλαι, Ἀθήνη·
 Δὸς δέ τέ μ' ἄνδρα ἐλεῖν, καὶ ἐς ὄρμην ἔγχεος ἐλθεῖν,
 Ὅς μ' ἔβαλε φθάμενος, καὶ ἐπεύχεται, οὐδέ μέ φησιν
 Δηρὸν ἔτ' ὄψεσθαι λαμπρὸν φάος ἠελίου. 6


VOCABULARY.


Ἄτρυτώνη = the Unwearied.

φίλα φρονέουσα = kindly minded.

ὄρμην = reach.


ἐπεύχομαι = boast.


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and underneath subscribe your name.

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GREEK PROSE COMPOSITION.

WEDNESDAY, November 21, 1888.—Time, 1:30 to 4 P. M. only.

40 credits, necessary to pass, 20.

Translate into Greek :

1. These things those who had deserted from the enemy, from the (side of) the great King, announced to Cyrus before the battle, and after the battle those of the enemy who had been captured announced the same things 10
2. And it was already the middle of the day, and the enemy were not yet in sight. But when it was dusk, there appeared on the plain a cloud of dust like a white cloud, and some time later, like darkness..... 12
3. After those things Chirisophus said : " Now if there is need of anything else besides that which Xenophon speaks of, it will be possible to do it immediately. And it seems to me to be best to vote as quickly as possible on the things which he has said ; and let any one to whom these things seem good raise his hand."..... 12
4. They sent him to the army, although he was not worthy' (use participle.)..... 2
5. May the gods give us the victory 2
6. O that you had so great power ! 2

VOCABULARY.

desert	= ἀπομολέω,
from the side of	= παρά,
battle	= μάχη, ἡ
capture	= λαμβάνω
in sight	= καταφανής, ἐς
when	= ἡνίκα
dusk	= δείλη
cloud of dust	= κοινορτός
some time	= συγχρόσ χρόνος
darkness	= μελανία
immediately	= ἀντίκα
vote	= ψηφίζομαι
raise	= ἀνατείνω

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32ND ADVANCED ACADEMIC EXAMINATION.

FRENCH.

(Translation at sight.)

MONDAY, November 19, 1888—Time, 1 : 30 to 4 P. M. only.

100 credits, necessary to pass, 75.

1. Form the feminine of *bas, faux, benin, public, frais, long...* 3
2. Form the plural of *chef-d'oeuvre, joujou, éventail, général...* 2
3. Compare *petite, bien*. Form an adverb from *heureux*..... 3
4. Conjugate (*a*) present subjunctive of *faire* ; (*b*) imperfect subjunctive of *savoir* ; (*c*) present indicative of *acquérir*..... 6
5. Give (*a*) present participle ; (*b*) perfect participle ; (*c*) present indicative 1st singular ; (*d*) present subjunctive 1st singular of *vivre, pouvoir, écrire*..... 6
6. Conjugate, *interrogatively*, the future indicative of *s'en aller*. 3
7. Translate into French : (*a*) It is fine weather to-day, but it will be very warm to-morrow. (*b*) You must read all these books which I have just given you. (*c*) Why did you not go to Paris last week ? 12
8. Translate : Les Pyramides d'Égypte.

La main du temps, et plus encore celle des hommes, qui ont ravagé tous les monuments de l'antiquité, n'ont rien pu jusqu'ici contre les pyramides. La solidité de leur construction, et l'énormité de leur masse, les ont garanties de toute atteinte, et semblent leur assurer une durée éternelle. Les voyageurs en parlent tous avec enthousiasme, et cet enthousiasme n'est point exagéré. On commence à voir ces montagnes factices, dix-huit lieues avant d'y arriver. Elles semblent s'éloigner à mesure qu'on s'en approche ; on en est encore à une lieue, et déjà elles dominant tellement sur la tête qu'on croit être à leur pied ; enfin, l'on y touche, et rien ne peut exprimer la variété des sensations qu'on y éprouve ; la hauteur de leur sommet, la rapidité de leur pente, l'ampleur de leur surface, le poids de leur assiette, la mémoire des temps qu'elles rappellent, le calcul du travail qu'elles ont coûté, l'idée que ces immenses rochers sont l'ouvrage de l'homme, si petit et si faible, qui rampe à leur pied, tout saisit à la fois le coeur et l'esprit d'étonnement, de terreur, d'humiliation, d'admiration, de respect. Mais, il faut l'avouer, un autre sentiment succède à ce premier transport ; après avoir pris une si grande opinion de la puissance de l'homme, quand on vient à méditer l'objet de son emploi, on ne jette plus qu'un oeil de regret sur son ouvrage ; on s'afflige de penser que, pour construire un vain tombeau, il a fallu tourmenter vingt ans une nation entière ; on gémit sur la foule d'injustices et de vexations qu'ont


dû coûter les corvées onéreuses et du transport, et de la coupe, et de l'entassement de tant de matériaux. On s'indigne contre l'extravagance des despotes qui ont commandé ces barbares ouvrages ; ce sentiment revient plus d'une fois en parcourant les monuments de l'Égypte : ces labyrinthes, ces temples, ces pyramides, dans leur massive structure, attestent bien moins le génie d'un peuple opulent et ami des arts, que la servitude d'une nation tourmentée par le caprice de ses maîtres. VOLNEY..... 60


9. Give the rule for the agreement of the past participle with the *direct object*, with an illustration from the above passage... 4

10. Explain the use of *l'* in the phrase *enfin, l'on y touche*..... 1

VOCABULARY.


<i>atteinte</i>	= injury.
<i>factice</i>	= artificial.
<i>s'éloigner</i>	= to withdraw from.
<i>dominer</i>	= to tower (above).
<i>pente</i>	= slope.
<i>assiette</i>	= position.
<i>corvée</i>	= toil.
<i>entassement</i>	= accumulation.


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GERMAN.

THURSDAY, November 22, 1888—Time, 9:30 A. M. to 12 M., only.

92 credits, necessary to pass, 69.

I. Translate :

Hans, der noch sehr jung, aber schon ziemlich leichtsinnig war, ging eines Tages gänzlich unerwartet auf die Wanderschaft. Wo er eigentlich hin wollte, wußte er nicht. Ob ihn sein Wanderstab hierhin oder dorthin führen werde, war ihm ganz gleich. Er meinte immer, es sei überall viel zu sehen, und man dürfe sich deshalb auch nirgends zu lange aufhalten. Trotzdem aber saß er zuweilen stundenlang auf einem Berge und stierte träumerisch in die Welt hinein. Bald sah er links, bald rechts, bald vorwärts, bald rückwärts.

So durchwanderte er sorgenlos, aber eigentlich auch zwecklos Städte und Länder und war jederzeit wohlgemuth. An den wirklichen Zweck des Wanderns dachte er selten und nie ernstlich. „Heute hier, morgen dort und immer lustig und gut leben!“ war sein Wahlspruch.

Fünf Jahre war er bereits auf Reisen. Sein Aeußeres hatte sich in dieser Zeit merklich verändert. Ein starker Bart bedeckte über und über sein Gesicht. Das blühende zarte Roth war längst von den Wangen gewichen. Sie hatten sich tief gebräunt. Sein Körper war hoch aufgeschossen und hatte sich kräftig entwickelt. Seine früher dünne Stimme klang jetzt tief, voll und männlich.

Da beschloß Hans endlich, wieder heimzukehren. „Ob man mich wohl daheim wiedererkennen wird oder nicht?“ dachte er still für sich.

Er reiste jetzt außerordentlich schnell. Nirgends rastete er lange. Er gönnte sich kaum Zeit gehäbig auszuschlafen. Bald war die Heimath erreicht. Langsam schritt er jetzt sein Vaterdorf entlang. Die Leute gingen stumm und gleichgültig an ihm vorüber. Niemand erkannte ihn, sogar seine Schwester nicht. Kaum aber erblickte ihn seine Mutter, die zufällig unter der Hausthür stand, rief sie ihn sogleich bei seinem Namen und fiel ihm gerührt und weinend um den Hals.----- 50

2. Give the principal parts of wußte, aufhalten, saß, beschloß, schritt.----- 10
3. Explain the case of eines Tages, of fünf Jahre, of Schwester.----- 3
4. Conjugate the present indicative of dürfe, of sah.----- 4
5. Explain the order of words in the clause, Da beschloß Hans.----- 1
6. Compare jung, hoch, lange.----- 3
7. Decline, in the singular, Ein starker Bart.----- 1
8. Give a synopsis, in the third singular of all tenses of the indicative, subjunctive and conditional moods, of the verb dachte, (active voice.)----- 7
9. Select from the above passage an adjective used as a substantive.----- 1

10. Why is in, line 7, followed by the accusative?----- 1
 11. Select from the above passage three reflexive verbs----- 3
 12. Translate into German :
 (a.) A sick man was asked why he did not send for a physician.
 He replied, "Because I do not wish to die."----- 4
 (b.) I cannot come, because I have this work to do----- 2
 (c.) No man stands so high that he may not fall----- 2

VOCABULARY.

Wanderstab	=	walking-stick.
überall	=	everywhere.
nirgends	=	nowhere.
zuweilen	=	at times.
Stieren	=	to gaze.
wohlgemuth	=	cheerful.
lustig	=	merrily.
Wahlspruch	=	motto.
Außeres	=	appearance.
entwickeln	=	to develop.
außerordentlich	=	remarkably.
ruhen	=	to rest.
gebörig	=	properly.
zufällig	=	by chance.

☞ Carefully read and obey the following directions:

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ARITHMETIC.

TUESDAY, November 20, 1888—Time, 9:30 A. M. to 12:30 P. M., only.

60 credits, necessary to pass, 45.

1. Mention two kinds of notation used in Arithmetic..... 2
2. What is meant by the local value of a figure? What is the effect of moving a figure one place to the left; of moving it two places to the left?..... 3
3. In three books there are 930 pages. In the first are 248 pages; and the second has 50 pages less than the third. How many pages has each book?.. 3
4. If three men can build a wall in 16 days, in what time can 8 men build it?..... 2
5. Write two numbers, one odd and one even, that are divisible by 13..... 2
6. Find the prime factors of 6699..... 3
7. The product of three numbers is 120. Two of the numbers are $6\frac{3}{4}$ and $3\frac{3}{4}$. What is the other number..... 2
8. Mention the chief differences between a common fraction and a decimal fraction..... 2
9. Multiply $57\frac{1}{2}$ by 6.875. Give the fractional part of the answer in the decimal form, and write the whole answer in words..... 4
10. For what is Troy weight used; Apothecaries weight?.... 2
11. By what weight is hay estimated; by what weight a silver dollar?..... 2
12. Write the table for long measure... 1
13. What decimal part of a day is 13 hours and 30 minutes? 2
14. How much will it cost to carpet a room which is 15 feet wide and 24 feet long with carpet $\frac{1}{4}$ yd. wide, at \$1.25 a linear yard?..... 3
15. A bin that holds 50 bushels is 4 feet long and 3 feet wide; how deep is it?..... 3
16. James Dalton buys of Julius Johnson, May 1, 1888, 275 lbs. sugar at $7\frac{1}{2}$ cents; 3 lbs. raisins at $12\frac{1}{2}$ cents; 1 barrel flour at \$5.50; and in payment of the bill gives his note payable at the Commercial Bank in 30 days. Make a bill of the above and receipt it... 4
17. Find the bank discount and proceeds of the note mentioned in question 16, discounted May 1, 1888..... 3
18. If 15 barrels of flour be sold for what 18 barrels cost how much is the gain per cent.?..... 2
19. What sum invested in stock at 6 per cent. premium will produce an annual income of \$1,000, the stock paying 8 per cent. annual dividend?..... 3
20. Three men gain \$980, of which A is to have \$2 as often as B has \$5 and C has \$7. How much is the share of each?..... 3
21. If a field 30 rods long and 20 rods wide cost \$48, how much will a field 50 rods long and 15 rods wide cost? (Solve by proportion,)... 3
22. The foot of a ladder is 28 feet from the wall of a house and the top of the ladder touches the wall 45 feet from the ground; how long is the ladder?..... 3
23. Find the side of a cubical bin holding 91125 cubic inches. 2
24. Give the length of a metre in inches..... 1

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67TH PRELIMINARY ACADEMIC EXAMINATION.

GEOGRAPHY.

TUESDAY, November 20, 1888—Time, 1:30 to 3 P. M., only.

60 credits, necessary to pass, 45.

1. What is latitude and from what circle is it measured? 2
2. Show by a diagram or drawing and explain, how a degree of longitude at the Tropic of Cancer differs from a degree of longitude at the Arctic Circle. 2
3. How does the water surface of the globe compare in extent with the land surface?..... 1
4. What is an island; a continent; a mountain system; a plateau; a strait? 5
5. Mention the most populous city of British America. 1
6. Mention the most extensive river basin of the United States, and give the names of five states on the eastern slope of the basin... .. 6
7. Mention and give the location of the largest city not the capital, in each of the following states: Ohio, Pennsylvania, California..... 3
8. Which is warmer the climate of Minnesota or that of Oregon? Give a reason for your answer?..... 2
9. Is there a current in Lake Ontario? Give a reason for your answer..... 2
10. Mention the principal lake port and the principal seaport of the State of New York and the waters through which boats pass between them by the shortest route..... 4
11. What river rises in Pennsylvania and flows into the State of New York?..... 1
12. Mention a canal (not the Erie Canal) in the State of New York, and the names of the bodies of water that it connects 3
13. Mention two important exports of South America and the port from which each is chiefly exported... .. 3
14. Which is further north, Paris or Boston; Albany or Portland, Oregon?..... 2
15. Mention the four principal possessions comprised in the British Empire. 4
16. Mention three mountain ranges in southern Europe, and the country in which each is located. 6
17. What countries are separated by the strait of Dover; what countries by the strait of Gibraltar?..... 4
18. Mention the body of water upon which each of the following is situated: St. Petersburg, Constantinople, Queenstown, Galveston..... 4
19. Between what two large countries north and south is Afghanistan located?..... 2
20. Give the location of Mecca and tell for what it is noted? 2
21. Give the location of Khartoum..... 1

GRAMMAR.

WEDNESDAY, November 21, 1888—Time, 9 : 30 A. M. to 12 M. only.

60 credits, necessary to pass, 45.

EXERCISE.

1. "Other men are known to posterity *only* through the medium of history *which is* continually *growing faint* and obscure : but the intercourse between the author and his fellow men is ever new, active, and immediate. 2. He has lived for them *more* than for *himself* ; he has sacrificed surrounding enjoyments, and shut himself up from the delights of social life, *that* he might the more intimately commune with distant ages."— *Washington Irving*.

1. Select from the exercise and write in a column the following :
 (a) an abstract noun ; (b) a noun the direct object of a verb ; (c) an adjective that cannot be compared ; (d) a pronoun in the possessive case ; (e) an adverb in the comparative degree ; (f) two regular verbs. 6
2. Select from the exercise (a) an adverbial phrase denoting manner ; (b) an adjective phrase ; (c) a relative clause. 3
3. How are verbs in the passive voice formed ? Select from the exercise a verb in the passive voice 2
4. Define the potential mode. Select from the exercise a verb in the potential mode 2
5. Explain the difference between the grammatical (or simple) subject and the logical subject, and give an example of each from sentence 2 of the exercise. 4
6. Select from the exercise two words that connect clauses and show what clauses each connects. 4
7. Write a sentence containing an active, transitive verb, and change the sentence to the corresponding passive form. 2
8. Give the principal parts, including the present participles of the following verbs of the exercise : *known* ; *shut* ; *is* ; *lived*. 4
9. Write sentences using the pronoun *who* in three different constructions (or cases). 3
10. Write two sentences that illustrate two rules for the use of capital letters. 2
11. Correct the following sentences and give a reason for each correction :
 I do not believe it is him. 2
 I prefer these kind of apples. 2
 Neither of them were correct. 2
12. Parse the italicised words of the exercise as follows :
only. 2
which. 3
is growing. 3
faint. 2
himself. 3
more. 2
that. 2
13. Analyze by diagram or otherwise sentence 1 of the exercise. 5

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67TH PRELIMINARY ACADEMIC EXAMINATION.

EXERCISE IN SPELLING.

WEDNESDAY, November 21, 1888—Time, 1:30 to 2:30 P. M., only.

The following numbered words are to be written by each candidate. Let the Principal distinctly and properly pronounce each word (with its number prefixed) allowing sufficient time for writing it before the next word is pronounced.

Direct the candidate to begin each proper name with a capital letter (failure to do which in the case of undoubted proper names will be counted as an error), and all others with a small letter.

100 credits, necessary to pass, 85.

(1) Election days were (2) times of (3) general (4) gathering. "On (5) these days the (6) pillion was (7) fastened (8) behind the (9) saddle; and the good (10) wife (11) rode with her (12) good man to the (13) seat of (14) government, to truck (15) some of the (16) yarn she had been (17) spinning, for (18) ribbons and other (19) foreign goods, as well as to gather up the (20) gossip of the year. On (21) such (22) occasions a (23) store of cake was (24) provided (25) beforehand, and 'election-cake' is (26) consequently one of the (27) institutions (28) received from our (29) fathers." *At-water.*

(30) Thanksgiving was the (31) great (32) festal day of the year. In its general (33) features and (34) spirit, it is (35) observed now very (36) much as in (37) colonial times. It was the day when (38) children and grand-children gathered in the old (39) homestead with (40) joyous (41) greetings. The (42) table (43) fairly (44) groaned (45) beneath the good things that had been provided by the (46) noble (47) mothers and (48) daughters, who had (49) reason to be (50) proud of (51) their (52) skill in (53) preparing all (54) kinds of (55) appetizing (56) dishes. The (57) male (58) members of the (59) family were (60) faithful in their (61) attendance upon the (62) service of (63) public (64) worship in the (65) morning, but the (66) rest of the day was (67) filled with home (68) festivities.

The (69) gift of *corn* was (70) especially (71) remembered. The (72) injunction of an old (73) Puritan (74) minister was (75) common: "Of all other things on the table you *may* eat, but of the (76) Indian (77) pudding you *must* eat." It was of this dish that Joel Barlow, the (78) famous (79) Connecticut (80) poet, (81) wrote these lines:

"Ye (82) Alps (83) audacious, (84) through the (85) heaven that rise
To (86) cramp the day, and (87) hide me from the (88) skies,
I sing not you. A (89) softer (90) theme I (91) choose.
I (92) sing the sweets I (93) know, the (94) charms I (95) feel,
My morning (96) incense, and my (97) evening (98) meal,
The (99) sweets of (100) Hasty Pudding."

"History of Connecticut."—*Sanford.*

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